

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

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1. (currently amended) A ~~mass production~~ method for the preparation of a multiplicity of individual specimens for atom probe analysis comprising:
providing a slab of material from which the specimen will be taken or analyzed;
nonlithographically defining a plurality of removable high aspect ratio posts in the slab ~~without the use of lithography~~; and
removing at least one post from the slab.
 2. (original) The method of claim 1 further comprising mounting the post on a pin.
 3. (original) The method of claim 1 further comprising shaping the post to a tip shape suitable for use in the atom probe.
 4. (original) The method of claim 1 where defining a plurality of posts in the slab comprises cross cutting grooves into the slab.
 5. (original) The method of claim 4 where cross cutting grooves into the slab comprising cutting intersecting grooves with a saw.

6. (original) The method of claim 5 where cutting intersecting grooves with a saw comprises cutting at least two sets of parallel grooves at an arbitrarily chosen angle to each other.
7. (cancelled)
8. (original) The method of claim 1 where defining a plurality of posts in the slab comprises forming a plurality of regularly shaped posts in the slab by uniformly removing material around each post to isolate each post from each other post in the plurality of posts.
9. (original) The method of claim 8 where uniformly removing material around each post to isolate each post from each other post in the plurality of posts comprises removing the material by mechanical means.
10. (original) The method of claim 8 where uniformly removing material around each post to isolate each post from each other post in the plurality of posts comprises removing the material by electrical means.
11. (original) The method of claim 8 where uniformly removing material around each post to isolate each post from each other post in the plurality of posts comprises removing the material by chemical means.

12. (cancelled)
13. (original) The method of claim 9 where removing the material by mechanical means comprises removing the material with a dicing saw.
14. (original) The method of claim 2 where removing at least one post from the slab comprises fracturing a single post from the slab.
15. (original) The method of claim 2 where removing at least one post from the slab comprises separating a section from the slab which section includes more than one post connected to the section to provide an array of posts.
16. (original) The method of claim 3 where shaping the post to a tip shape suitable for use in the atom probe comprises focus-ion-beam milling the post to a tip shape.
17. (previously presented) The method of claim 1 further comprising shaping each of the posts to a tip shape suitable for use in the atom probe while each post remains connected to the section.
18. (previously presented) The method of claim 1 where defining a plurality of posts comprises shaping each of the posts so that the posts are spaced by a predetermined

distance to avoid interference between separate posts when subsequently used in an atom probe.

19. (original) A source of specimens for use in atom probe analysis comprising a slab of material from which the specimen will be taken, which has been defined into a plurality of posts.

20. (original) The source of claim 19 where at least one post is removed from the slab and the post has been shaped to a tip suitable for use in the atom probe.

21. (original) The source of claim 19 where the plurality of posts defined in the slab have been defined by cross cutting grooves into the slab.

22. (original) The source of claim 20 where the shaped post is focus-ion-beam milled to a tip shape.

23. (original) The source of claim 22 where the slab has a flattened surface into which the posts are defined.

24. (previously presented) The source of claim 19 where defining a plurality of posts comprises shaping each of the posts so that the posts are spaced by a predetermined

distance to avoid interference between separate posts when subsequently used in an atom probe.

25. (currently amended) A method for the preparation of a multiplicity of individual semiconductive or insulative specimens for atom probe analysis comprising:

providing a slab of semiconductive or insulative material from which the specimen will be taken or analyzed;

defining a plurality of regularly shaped high aspect ratio posts in the slab, the posts having a substantially quadrilateral cross section and a prismatic longitudinal axis, the posts being defined by grooves formed into the slab to the depth of the post as the starting material for the specimen; and

removing at least one post from the slab.

26. (previously submitted) The method of claim 25 further comprising shaping the post to a tip shape suitable for use in the atom probe.

27. (previously submitted) The method of claim 25 where defining a plurality of posts in the slab comprises cross sawing grooves into the slab.

28. (cancelled)

29. (currently amended) A ~~mass-production~~ method for the preparation of a multiplicity of individual nonmetallic specimens for atom probe analysis comprising:

- providing a slab of material from which the specimen will be taken or analyzed;
- nonlithographically defining a plurality of regularly shaped high aspect ratio posts in the slab ~~without the use of any photolithographic step~~ to a depth of the post as the starting material for the specimen by uniformly removing material around each regularly shaped post to isolate each regularly shaped post from each other regularly shaped post in the plurality of regularly shaped posts;
- removing at least one regularly shaped post from the slab; and
- selectively removing additional material from the regularly shaped post.

30. (previously submitted) The method of claim 29 where uniformly removing material around each post to isolate each post from each other post in the plurality of posts comprises removing the material by electrical means.

31. (cancelled)

32. (previously submitted) The method of claim 29 where removing the material around each post to isolate each post from each other post in the plurality of posts comprises removing the material with a dicing saw.

33. (previously submitted) The method of claim 29 where removing at least one post from the slab comprises fracturing a plurality of posts from the slab to provide separate specimens.

34. (previously submitted) The method of claim 29 where removing at least one post from the slab comprises separating a section from the slab which section includes a plurality of posts which remain connected to the section to provide an array of specimens.

35. (previously submitted) The method of claim 34 further comprising shaping each of the posts of the array to a tip shape suitable for use in atom probe analysis while each post remains connected to the section.

36. (previously submitted) The method of claim 35 where shaping each of posts comprises shaping each of the posts of the array so that the posts are spaced by a predetermined distance to avoid interference between separate posts when subsequently used in atom probe analysis.

37. (currently amended) A ~~mass-production~~ source of a multiplicity of individual semiconductive or insulative specimens for use in atom probe analysis comprising a slab of material from which the specimen will be taken into which material microgrooves

have been defined to a predetermined depth to define a plurality of high aspect ratio quadrilateral posts.

38. (cancelled)

39. (currently amended) A ~~mass production~~ method for the preparation of a multiplicity of individual, semiconductive or insulative specimens for atom probe analysis comprising:

providing a slab of semiconductive or insulative material from which the specimen will be taken or analyzed;

defining a plurality of regularly shaped high aspect ratio posts in the slab, the posts having a substantially quadrilateral cross section and a prismatic longitudinal axis, the posts being defined by grooves formed into the slab to the depth of the post as the starting material for the specimen; and

removing at least one post from the slab.

40. (cancelled)

41. (currently amended) A method for the mass produced preparation of individual specimens for atom probe analysis comprising:

providing a slab of material from which the specimen will be taken or analyzed;

defining a plurality of high aspect ratio posts in the slab ~~without the use of lithography~~ by sawing intersecting microgrooves in the slab to the depth of the post to provide an array of posts, which is separable from the slab by mechanical fracturing;
removing at least one post from the array; and
machining the at least one post using a focused ion beam to produce the individual specimen.

42. (currently amended) A source for mass produced specimens for use in atom probe analysis comprising a slab of material from which the specimen will be taken into which material intersecting microgrooves have been sawed to a predetermined depth to define a plurality of high aspect ratio posts, which depth is determined by the separability of the posts from the slab by mechanical fracturing.